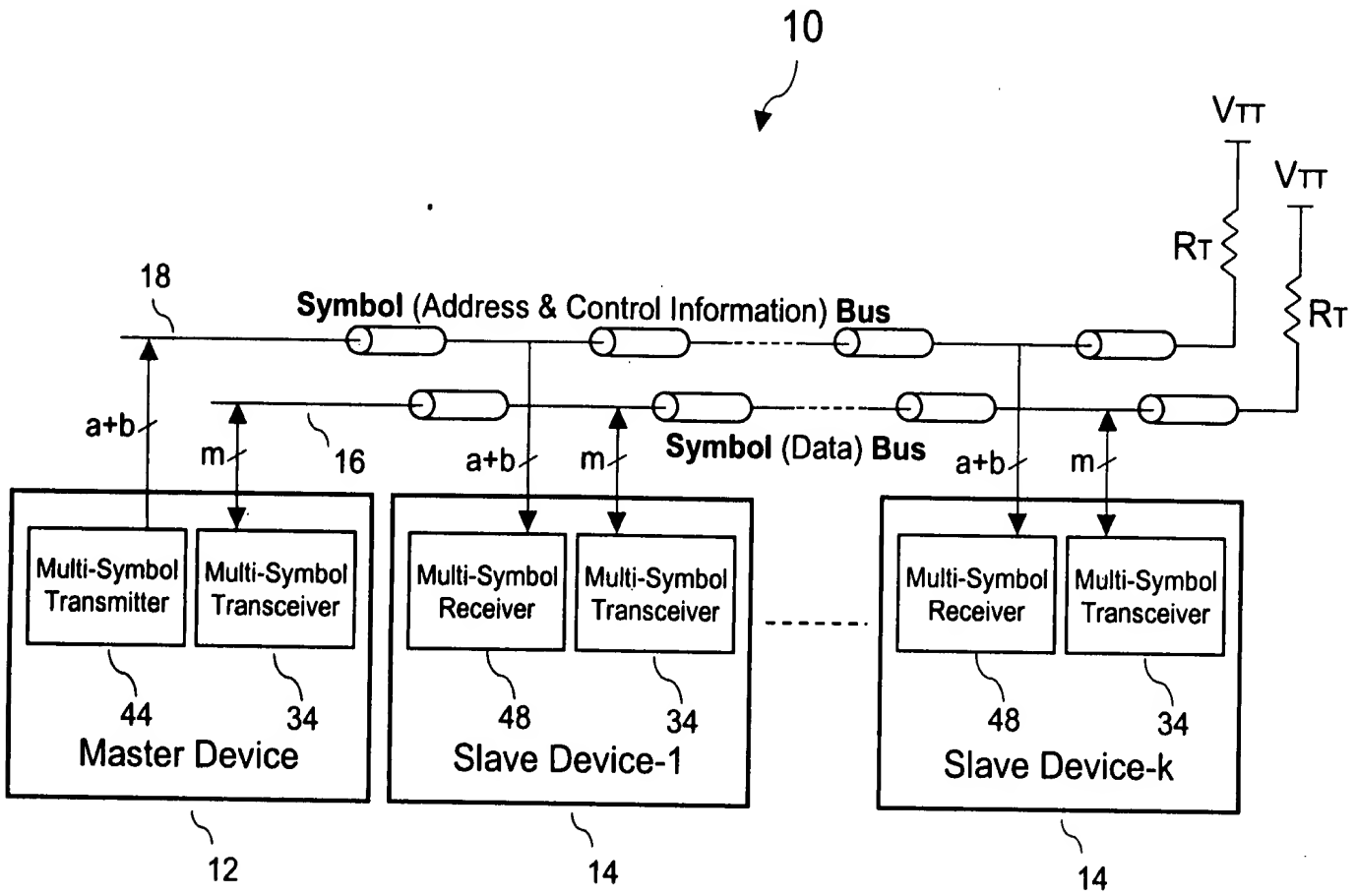
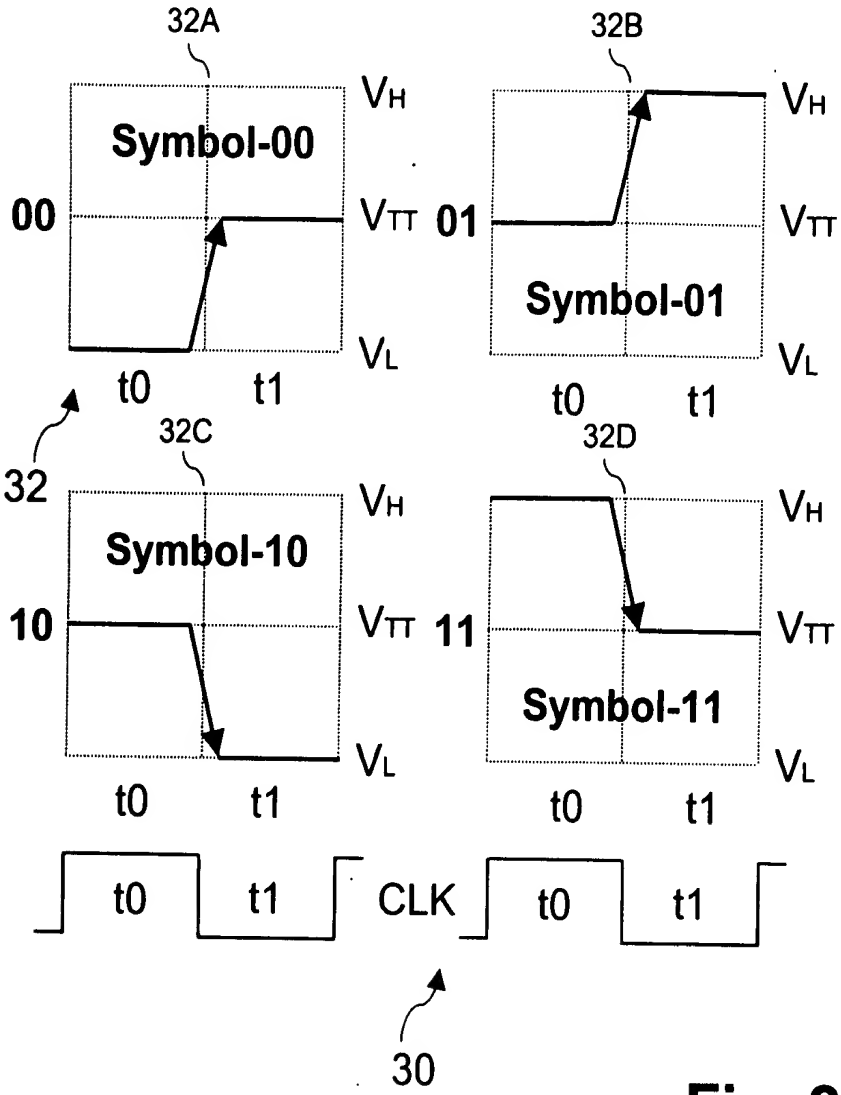


Fig. 1

Multi-Symbol Signaling Technique



26

D1	D0	Transition	Region	Symbol
0	0	Rising	Lower	Symbol-00
0	1	Rising	Upper	Symbol-01
1	0	Falling	Lower	Symbol-10
1	1	Falling	Upper	Symbol-11

28

D1	D0	t0 CLK=high	t1 CLK=low	Symbol
0	0	VL	VTT	Symbol-00
0	1	VTT	VH	Symbol-01
1	0	VTT	VL	Symbol-10
1	1	VH	VTT	Symbol-11

30

Fig. 2

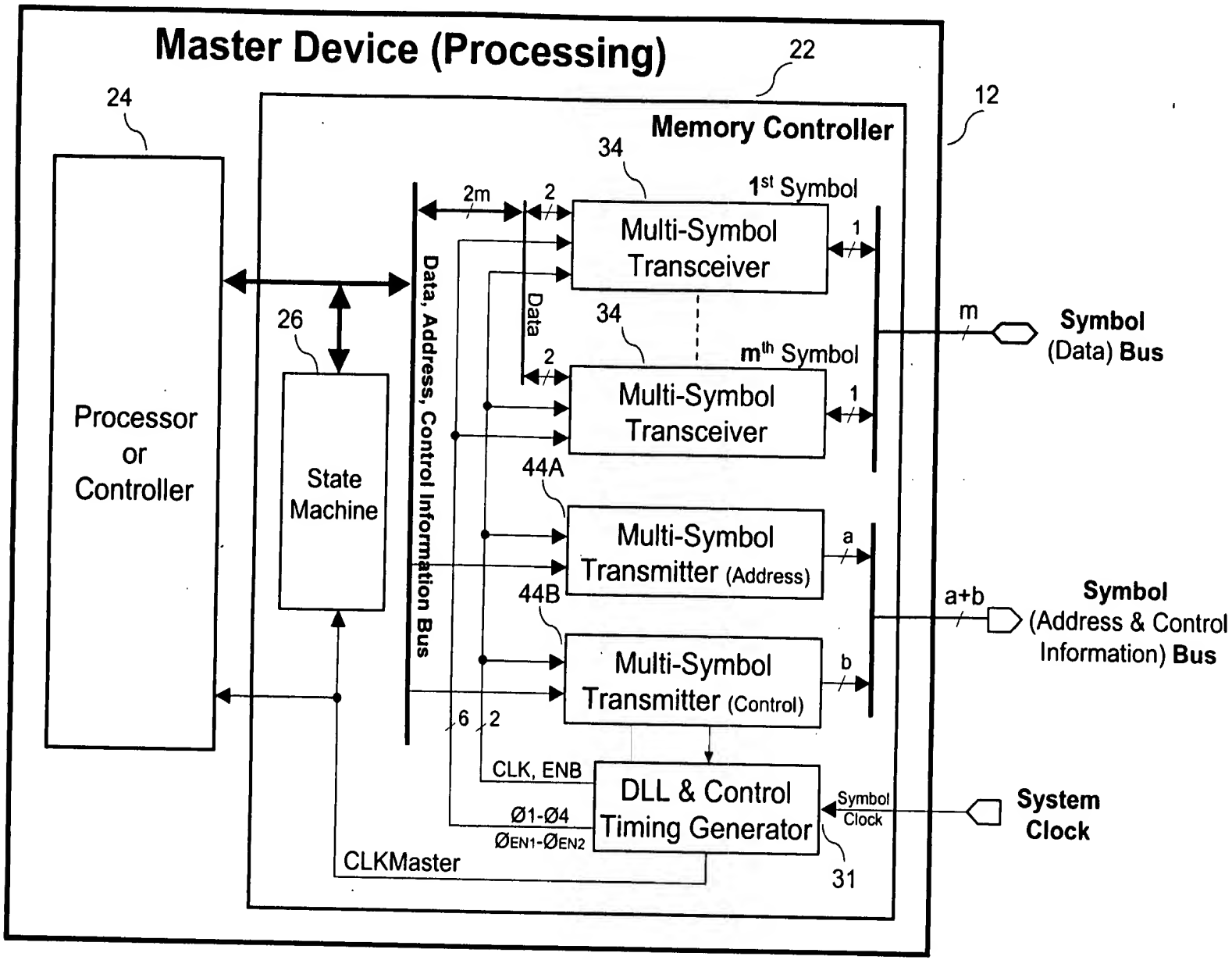


Fig. 3

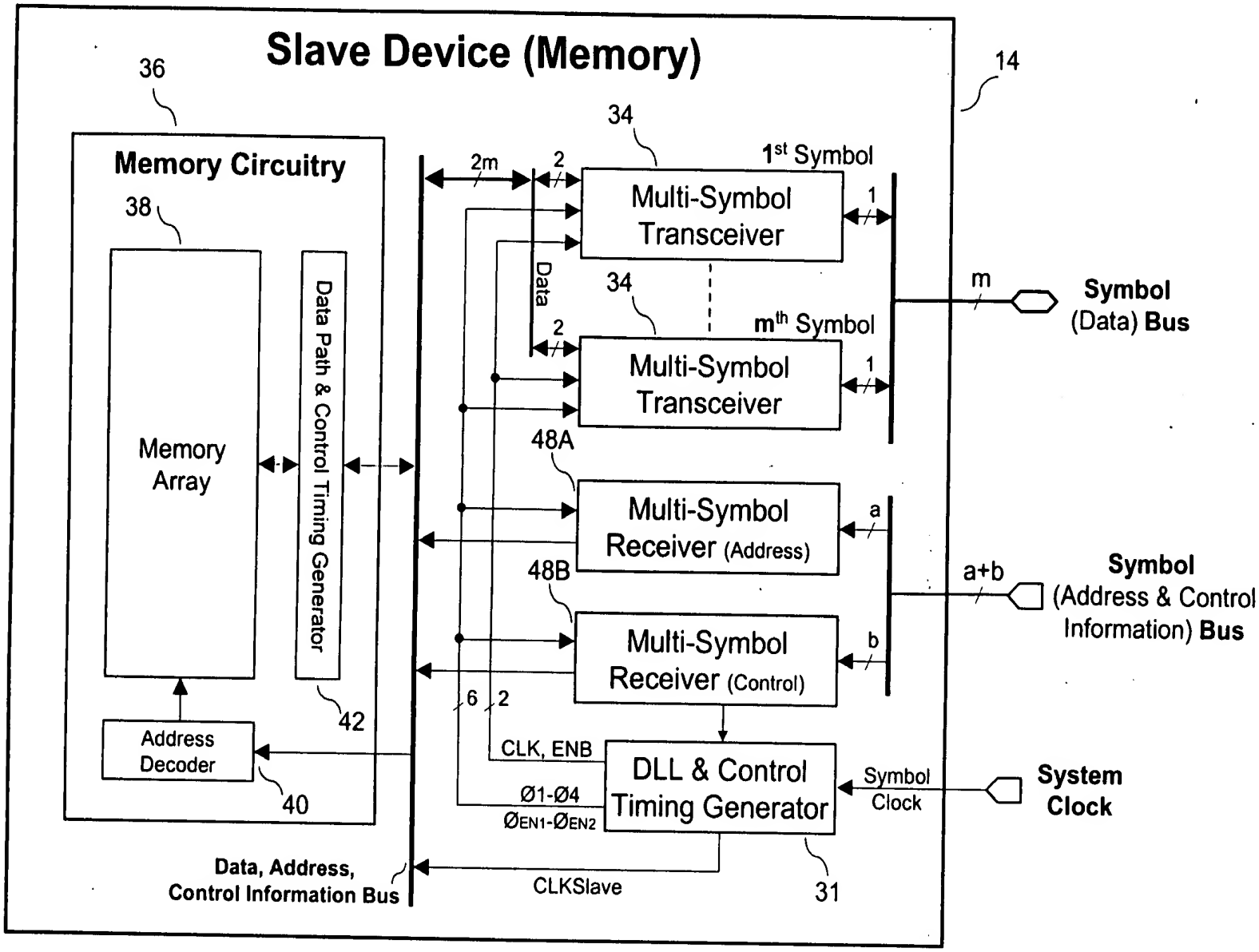


Fig. 4

Multi-Symbol Transceiver

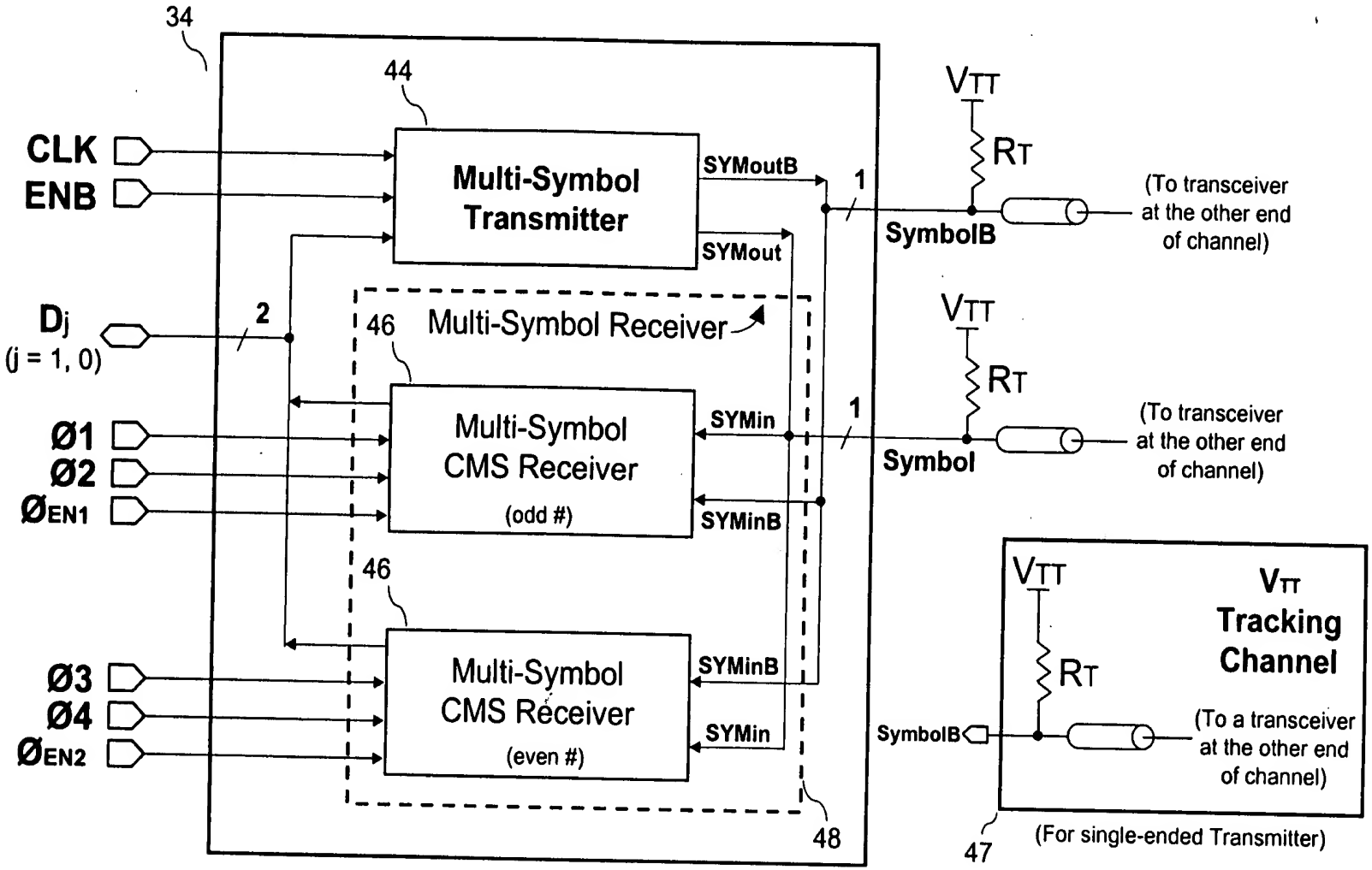
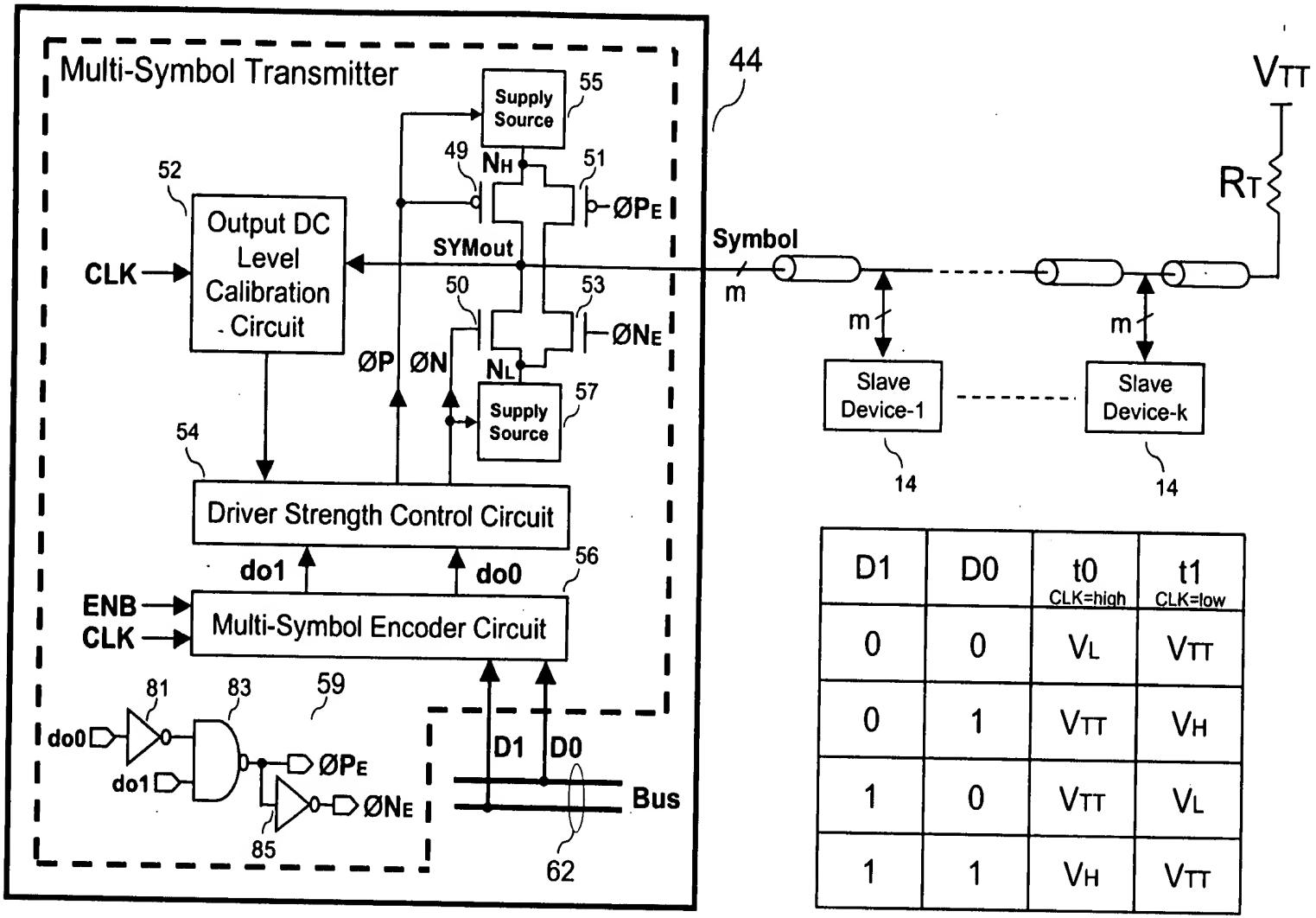


Fig. 5

Multi-Symbol Transmitter (single-ended)



D1	D0	t0 CLK=high	t1 CLK=low
0	0	V_L	V_{TT}
0	1	V_{TT}	V_H
1	0	V_{TT}	V_L
1	1	V_H	V_{TT}

Fig. 6A

Multi-Symbol Transmitter (differential)

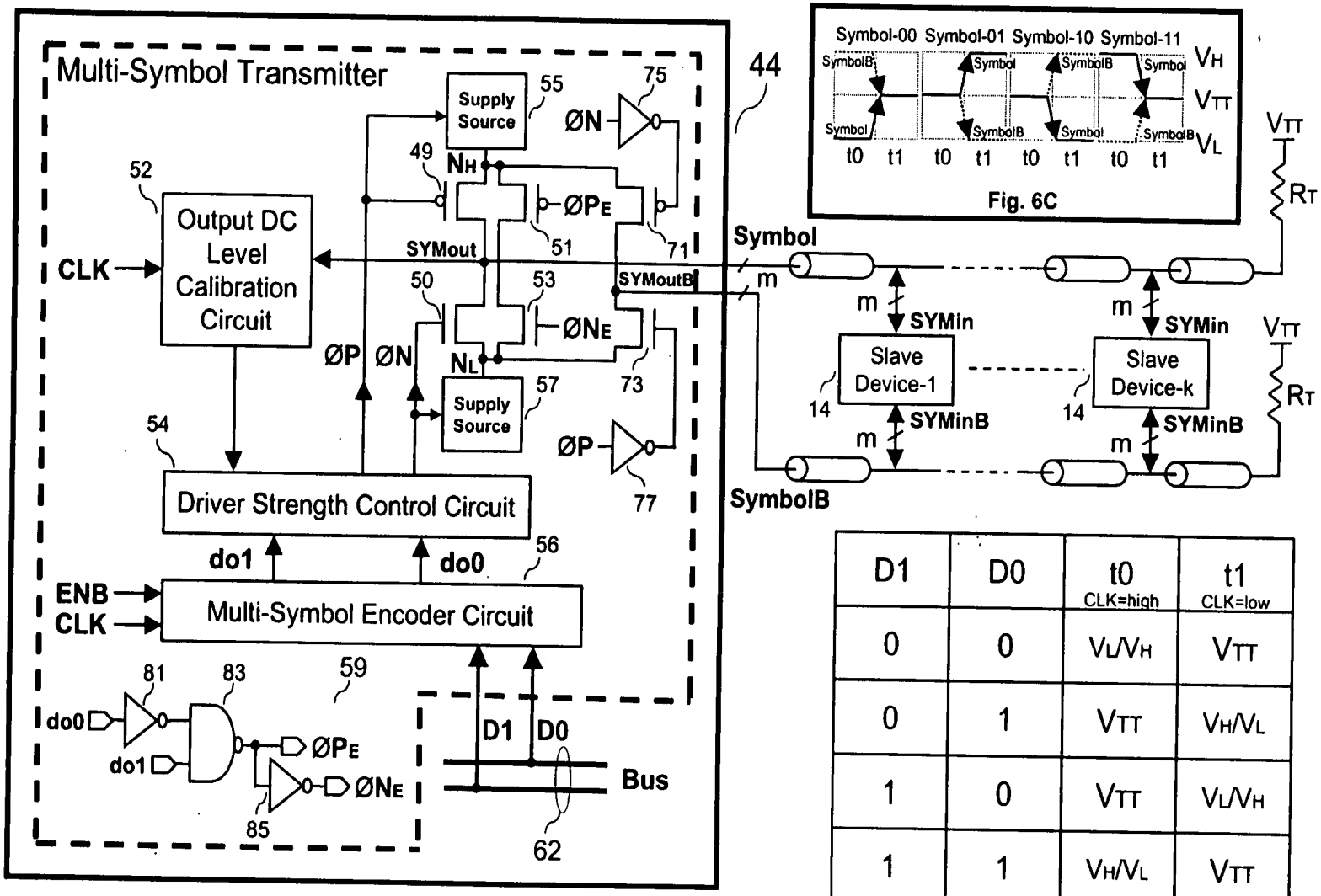
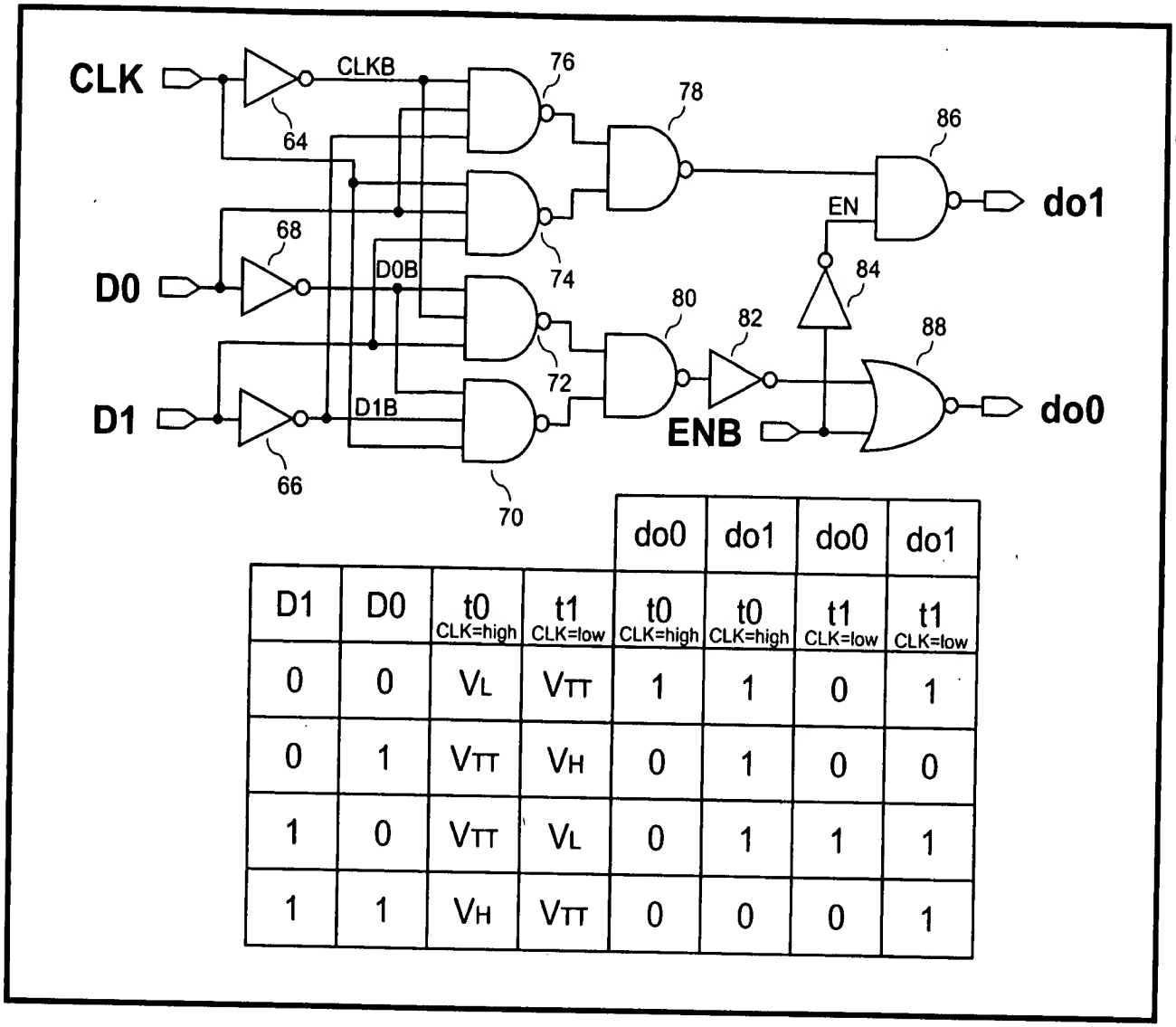


Fig. 6C

D1	D0	t0 CLK=high	t1 CLK=low
0	0	VL/VH	VTT
0	1	VTT	VH/VL
1	0	VTT	VL/VH
1	1	VH/VL	VTT
		Symbol/ SymbolB	Symbol/ SymbolB

Fig. 6B

Multi-Symbol Encoder



				do0	do1	do0	do1
D1	D0	t0 CLK=high	t1 CLK=low	t0 CLK=high	t0 CLK=high	t1 CLK=low	t1 CLK=low
0	0	V_L	V_{TT}	1	1	0	1
0	1	V_{TT}	V_H	0	1	0	0
1	0	V_{TT}	V_L	0	1	1	1
1	1	V_H	V_{TT}	0	0	0	1

Fig. 7

Multi-Symbol Encoder Timing Diagram

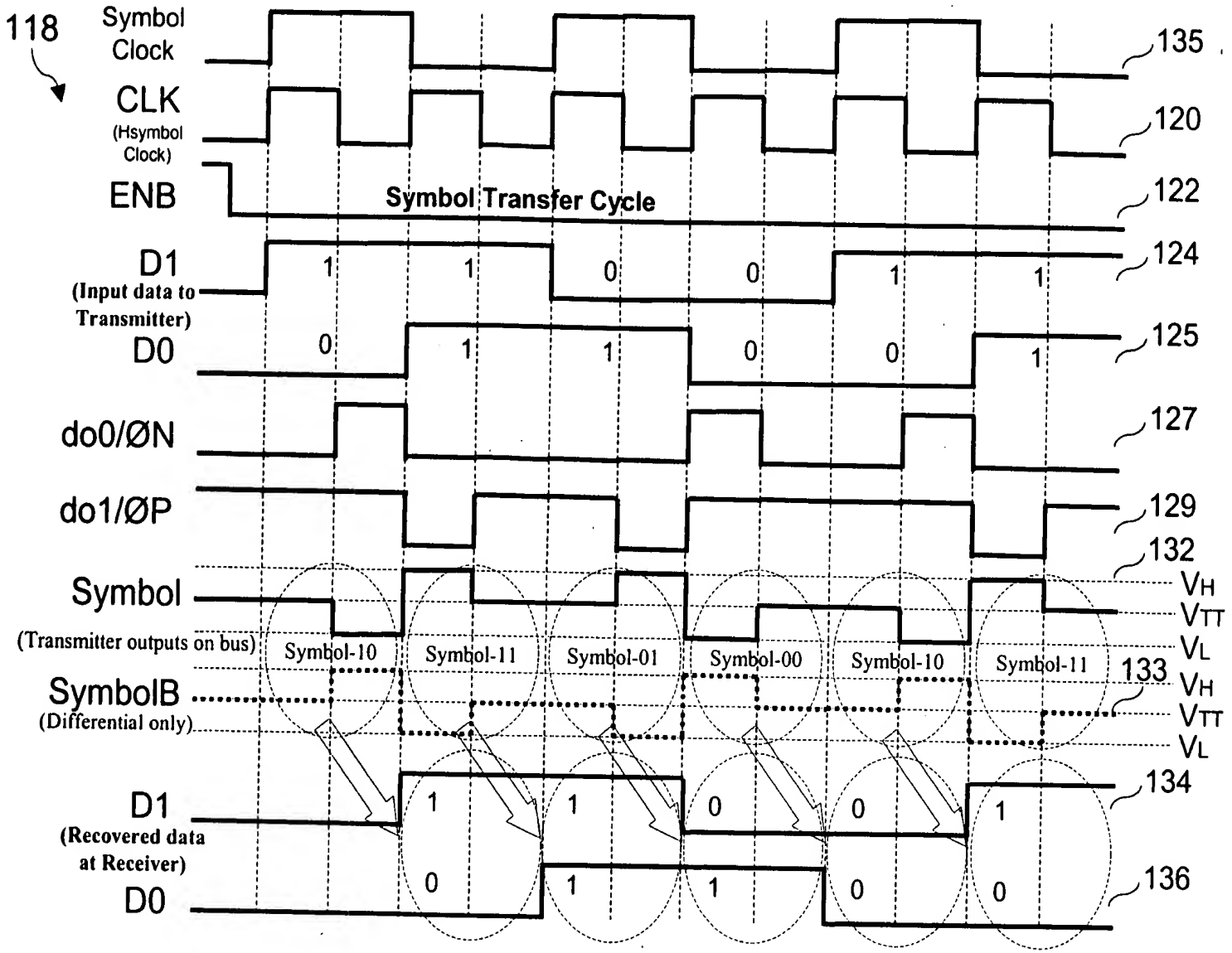


Fig. 8

Multi-Symbol CMS Receiver

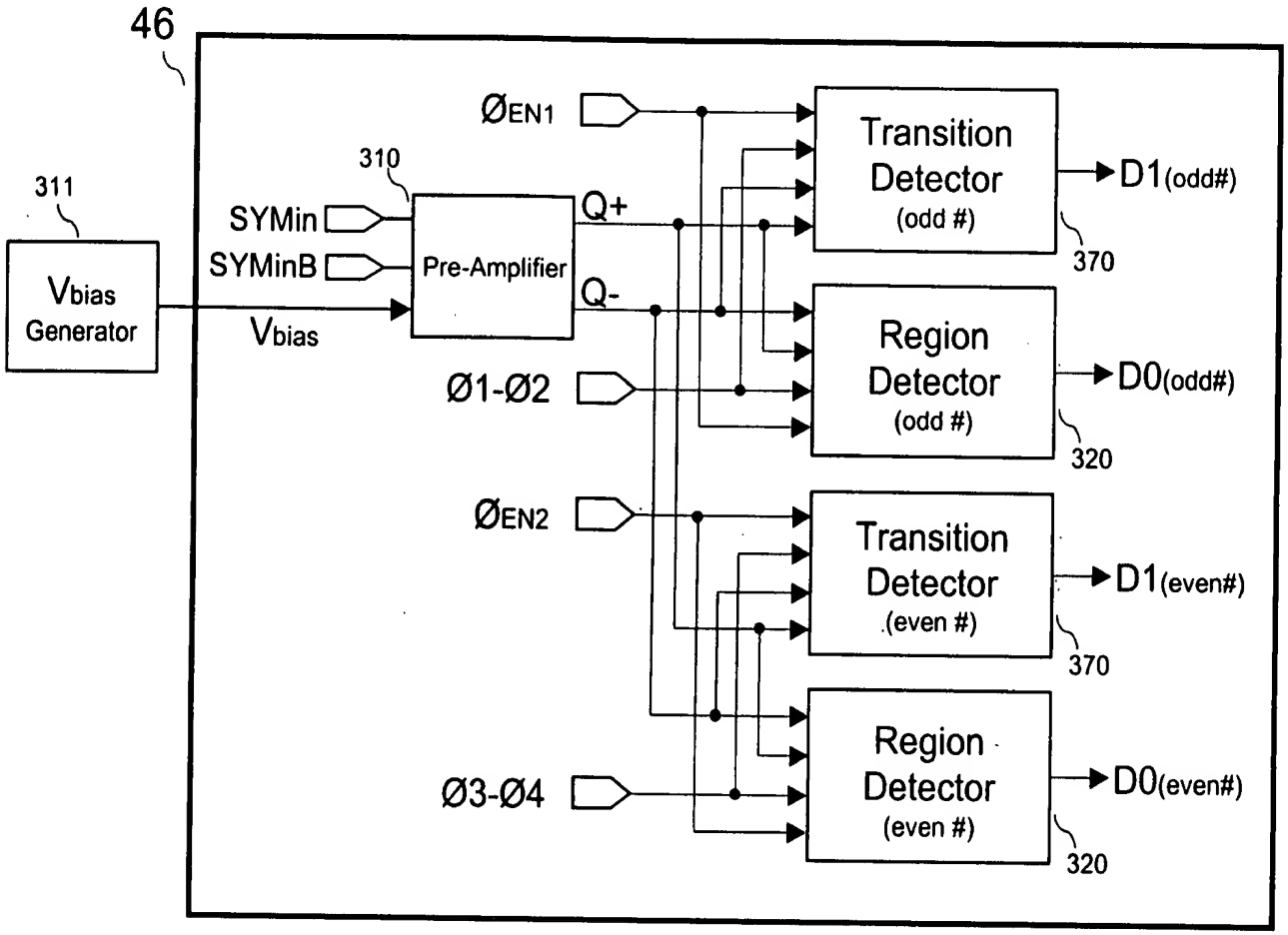


Fig. 9

Pre-Amplifier

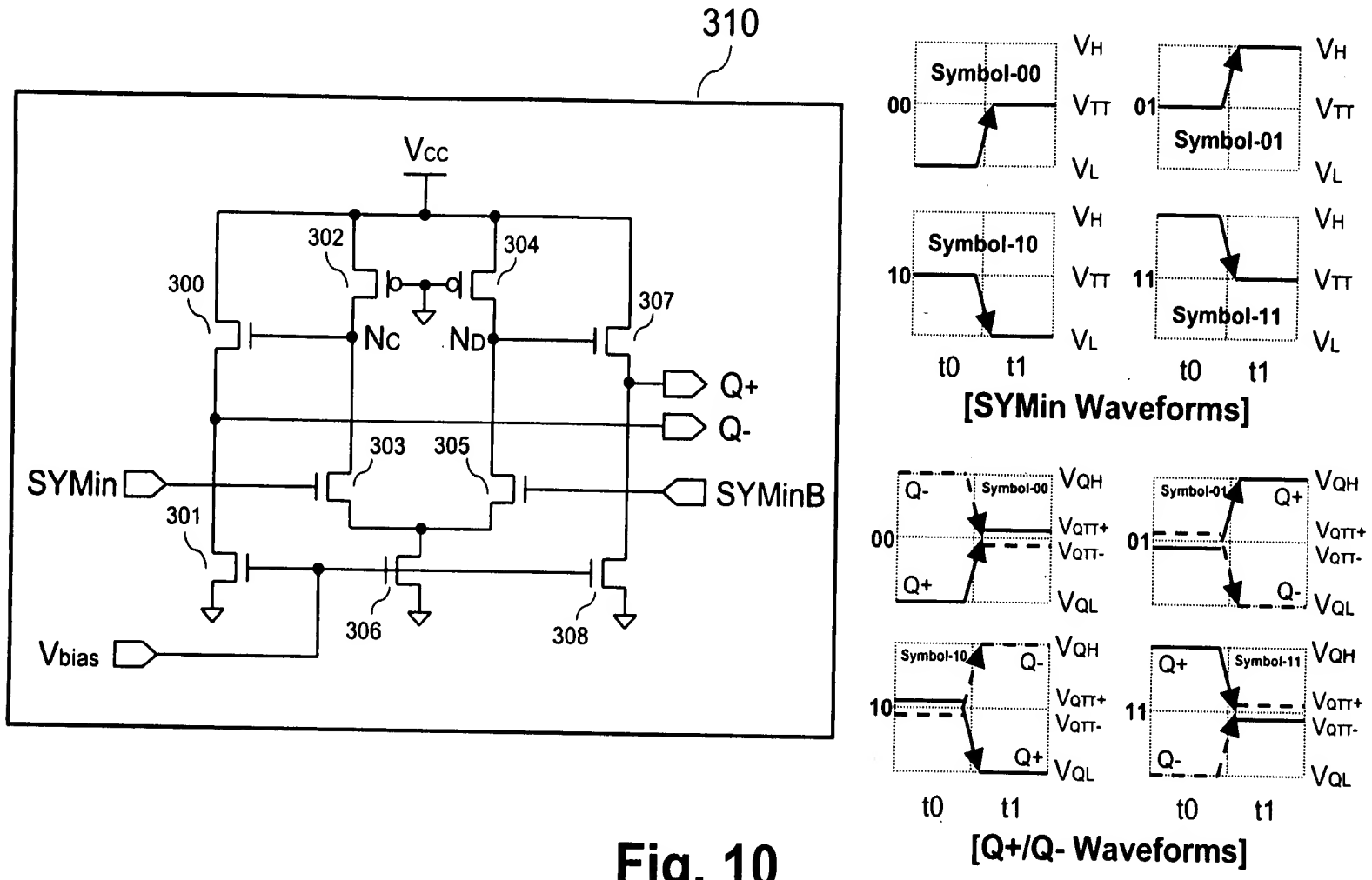


Fig. 10

Transition Detector

Fig. 11A

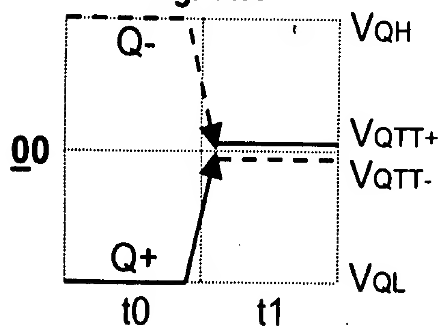


Fig. 11B

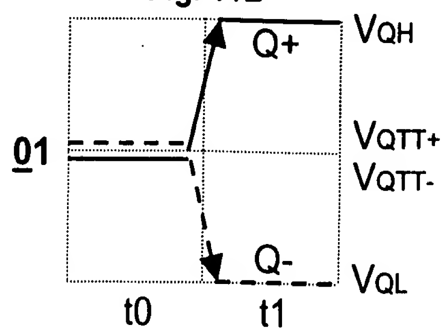


Fig. 11C

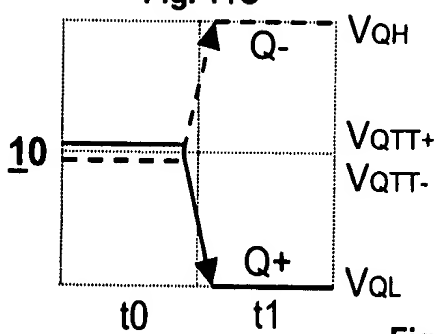
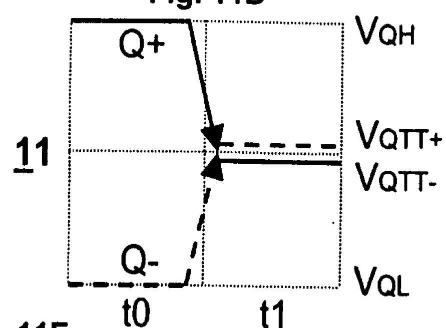


Fig. 11D



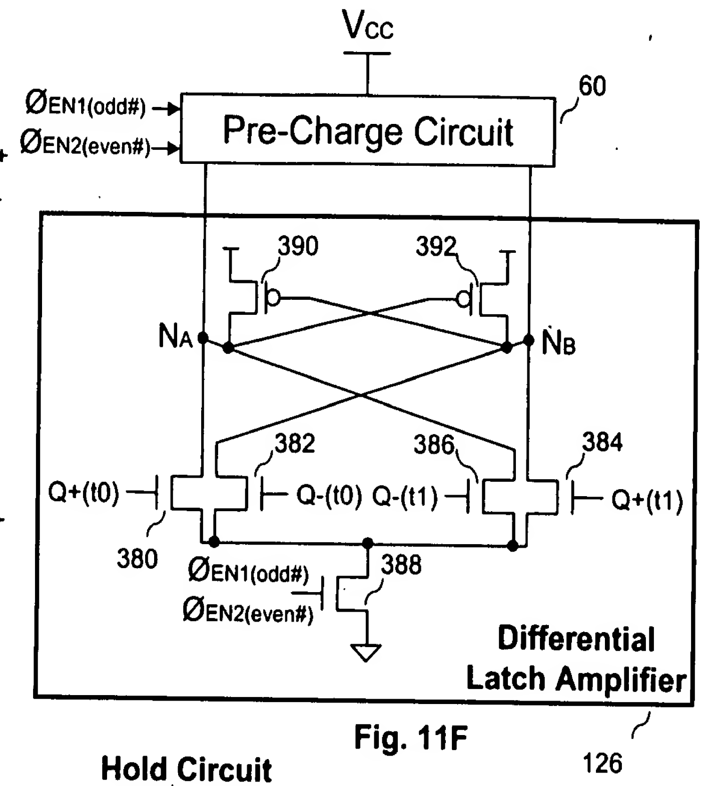
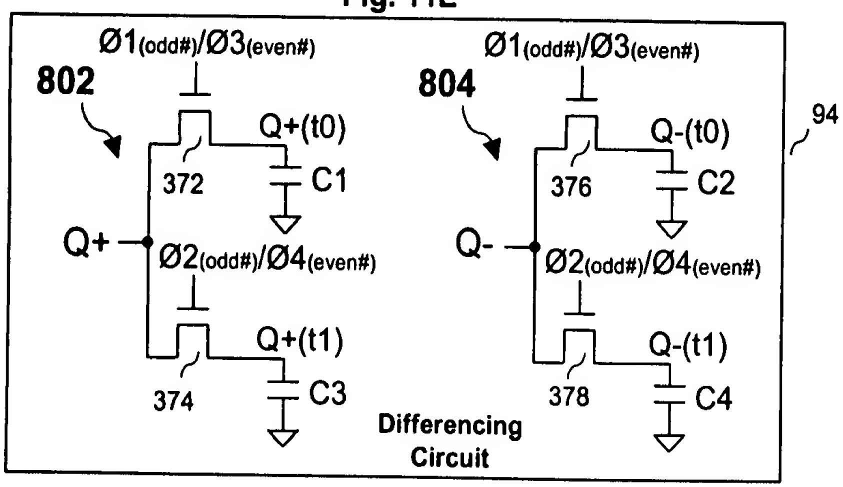


Fig. 11F

Fig. 11E



Hold Circuit

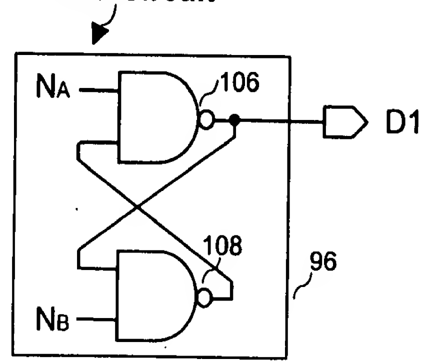


Fig. 11G

09617592 .071800

Region Detector

Fig. 12A

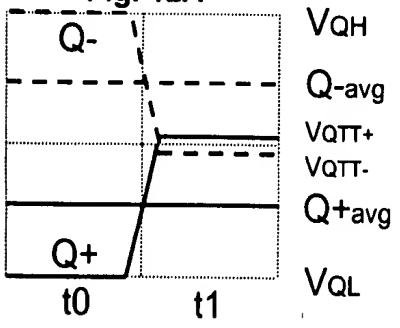


Fig. 12B

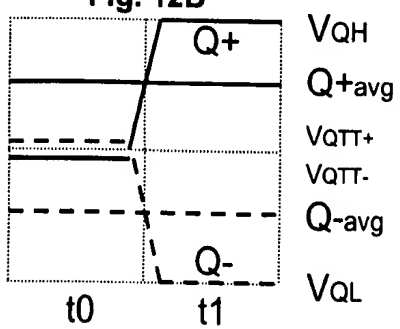


Fig. 12C

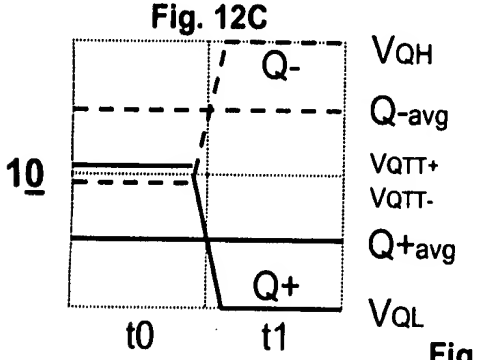
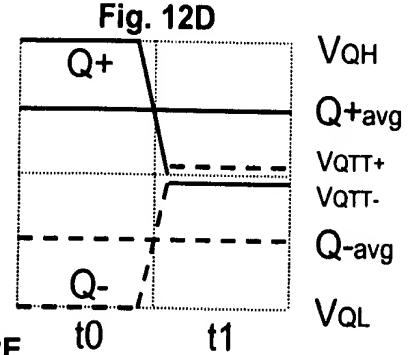


Fig. 12D



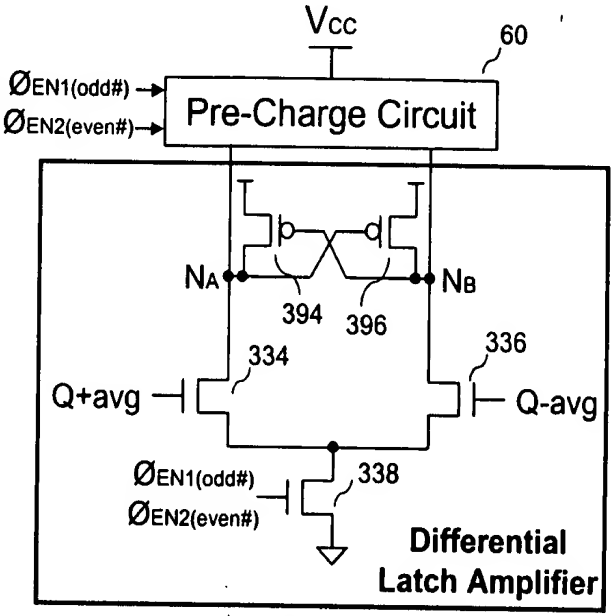
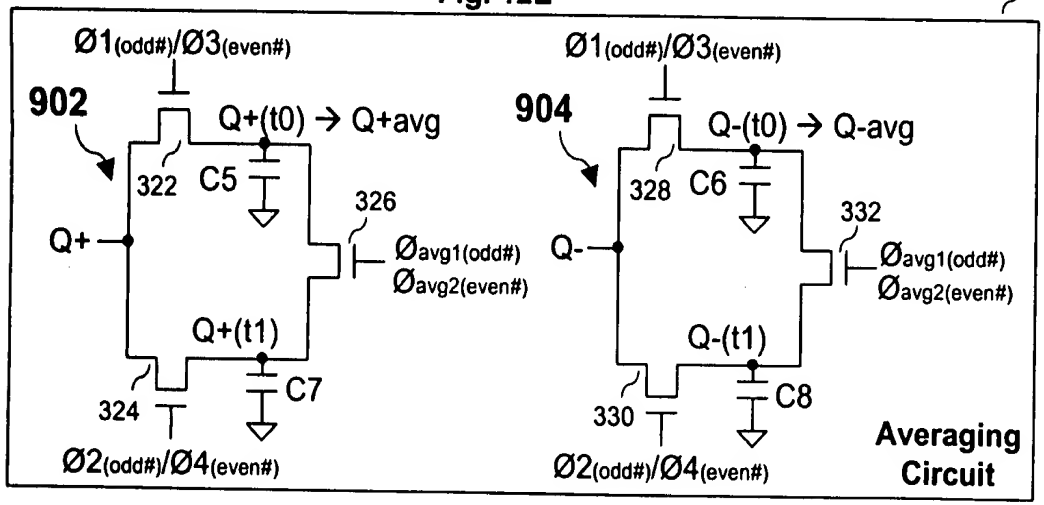


Fig. 12F

128

Fig. 12E

130



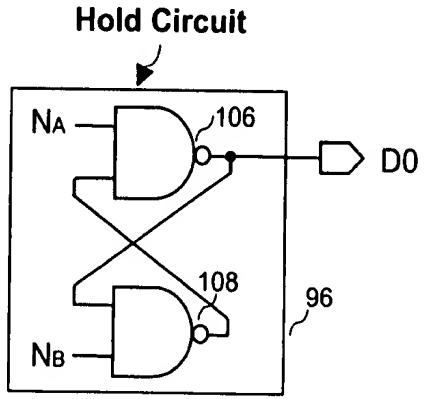


Fig. 12G

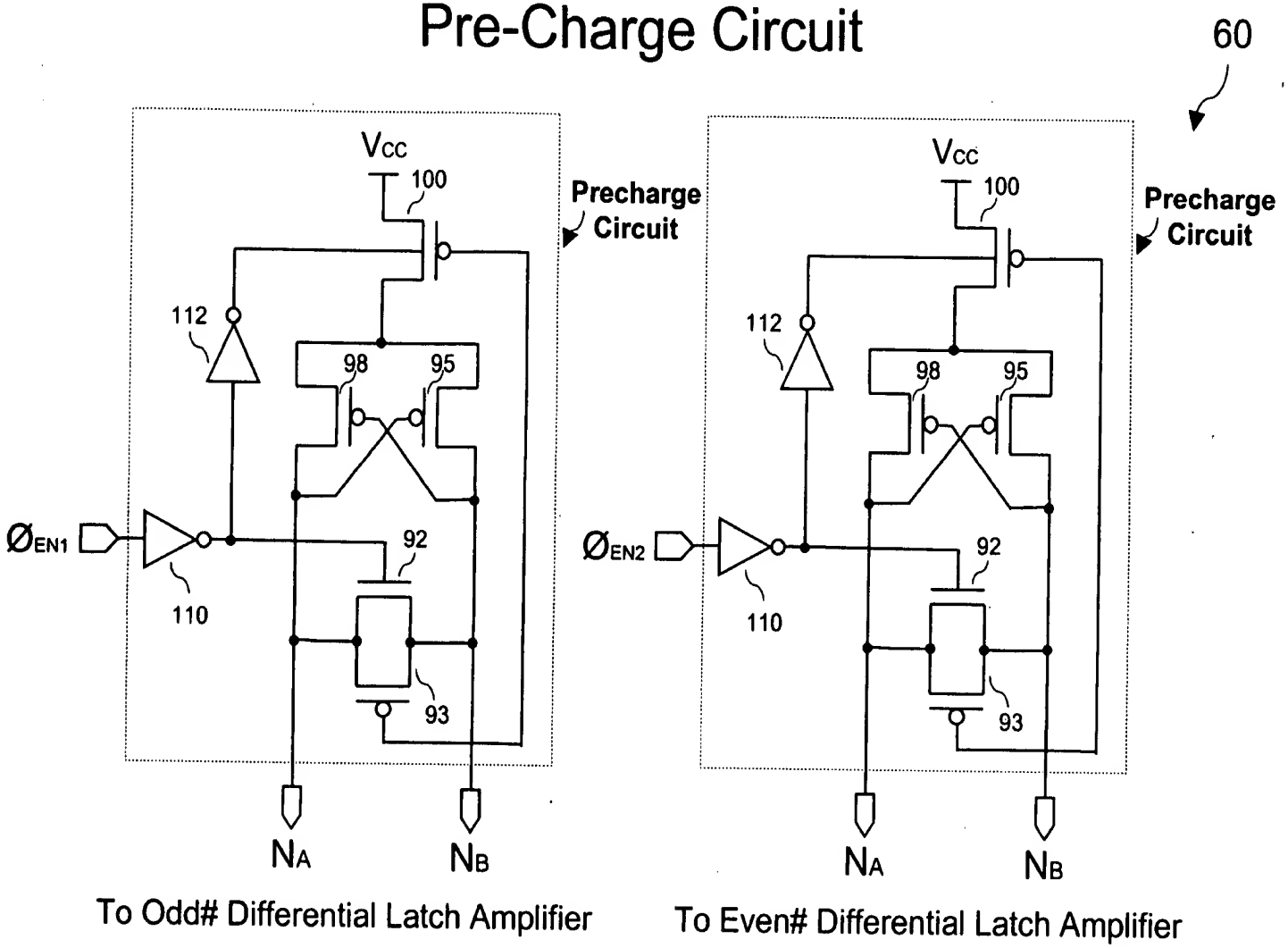

Pre-Charge Circuit
60
Vcc
100
Precharge Circuit
112
98
95
ØEN1
92
110
93
NA
NB
To Odd# Differential Latch Amplifier
Vcc
100
Precharge Circuit
112
98
95
ØEN2
92
110
93
NA
NB
To Even# Differential Latch Amplifier

Fig. 13

Multi-Symbol Transfer Control Timings

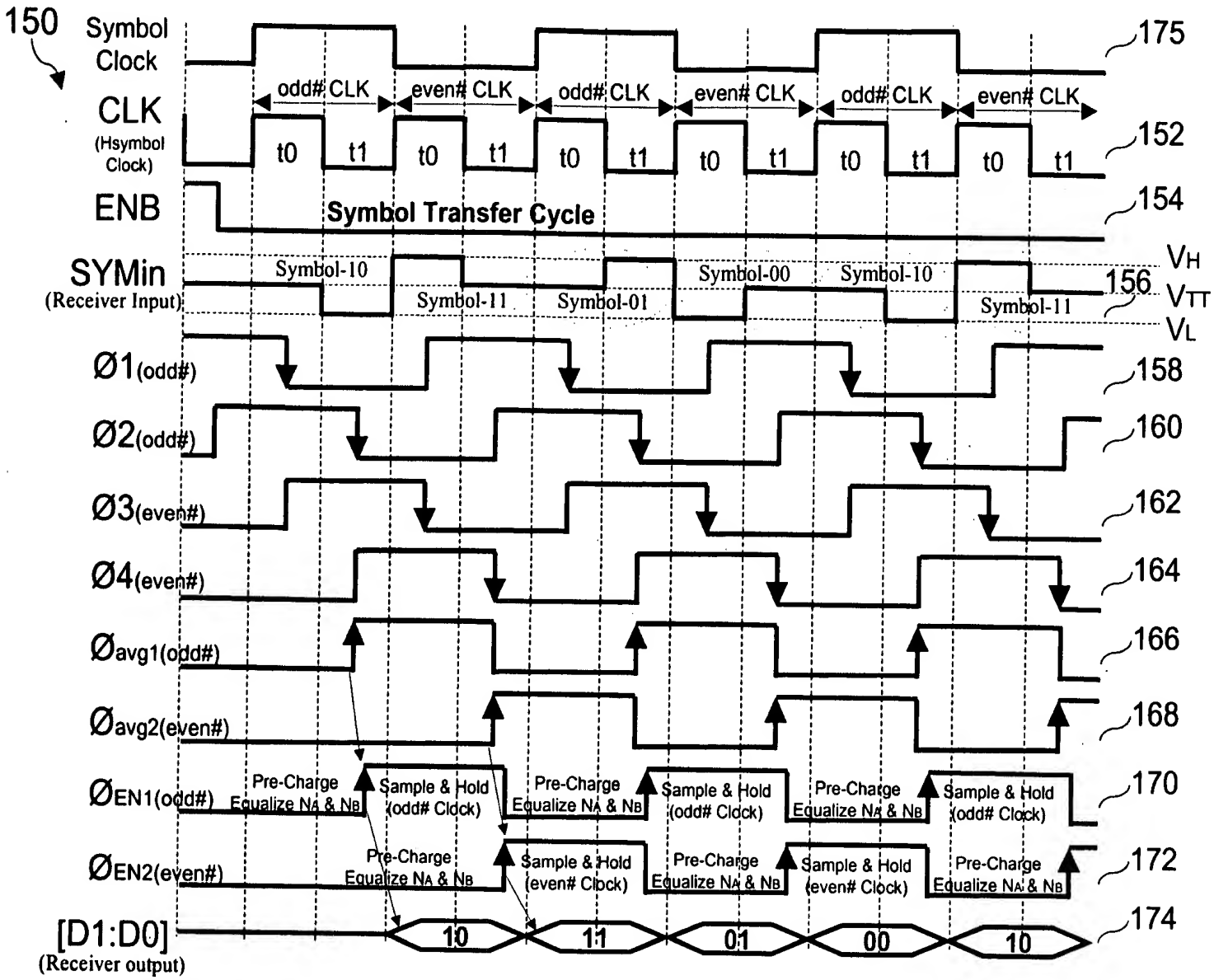


Fig. 14